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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Organosulfates and organic acids in Arctic aerosols: speciation, annual variation and concentration levels" *by* A. M. K. Hansen et al.

Anonymous Referee #1

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General comment

This is an interesting study providing further evidence that (nitrooxy)organosulfates are ubiquitous in ambient atmospheric aerosols. What makes this study very unique is that it shows the time series of (nitrooxy)organosulfates over the course of a year in the arctic region. Overall the manuscript is well written and the results are presented in a clear manner. I have a small minor comment about the usage of the word 'tracer'; otherwise I recommend this paper be published in ACP.

Specific comments

P4751L15 The authors may want to consider a filter extraction procedure with a laboratory orbital shaker in future studies as the ultrasonication is known to degrade SOA compounds in the extract. See Mutzel et al., 2013.

A. Mutzel, M. Rodigast, Y. Iinuma, O. Böge, H. Herrmann, An improved method for the quantification of SOA bound peroxides. Atmos. Environ. 67, 365-369 (2013), Doi 10.1016/J.Atmosenv.2012.11.012.

P4757L28 I feel the word 'tracer' should be reserved for those compounds that are known to originate from a certain source. Here, these organosulfates likely have multiple sources and it is more appropriate to state '. . .and OS 182 in the Arctic aerosols primarily originate from anthropogenic emissions. . .'.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 4745, 2014.